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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/723,543

11/26/2003

John R. Wootton

2/1206US

9738

22822 7590 03/21/2008

LEWIS, RICE & FINGERSH, LC

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SUITE 2000

ST LOUIS, MO 63102

EXAMINER

HANDAL, KAITLY V

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

03/21/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/723,543	Applicant(s) WOOTTON ET AL.	
	Examiner KAITY V. HANDAL	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/10/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hokari et al. (US 2003/0168381) in view of Wright et al. (USP 5,141,823).

Regarding claims 18-35, Hokari et al. discloses a system comprising hydrocarbon and water feeds; a supercritical water (SCW) reactor; further including an oxygen feed into the SCW reactor; further comprising a sensor and control system for monitoring at least one of said syntheses gas and said output gas and adjusting said feeds based on said sensing (see for example [0005]-[0018] and [0031]).

While the reference teaches that the produced combustible gas can be used for energy generation, it does not disclose another means of using said combustible gas for energy generation, namely using it in a fuel cell. Since to use combustible gas resulting from hydrocarbon reforming in a fuel cell was well known in the art at the time of the invention, as evidenced by Wright et al. (see for example abstract), it would have been obvious to one having ordinary skill in the art at the time of the invention to use said generated combustible gas of Hokari et al. in the fuel cell of Wright et al., as doing so would have amount to nothing more than to use a known material for its intended use, in a known environment to accomplish an entirely

expected result. Further examiner notes that an apparatus is not patentable where it is an obvious combination of two known elements, wherein each element lends to end products the desirable properties that each is known to produce when used alone and there exists no evidence of co-action between the elements that produces unexpected results. See *In re Fortress and Schoeneberg*, 152 USPQ 13 (CCPA 1966).

Wright additionally discloses that to use combustible gas in a fuel cell, the system needs to include a water-gas shift reactor (C5/L62-68 and C7/L50-65) and a capturing system to temporarily store that hydrogen gas before supplying it to the fuel cell (C 1/L54-C2/L5).

Regarding limitations recited in claims 18-35 which are directed to a manner of operating disclosed system, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115. Further, process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim."

Response to Arguments

IDS

The submitted IDS submitted on 12/10/2007 is not accepted as set forth above.

Prior Art Rejection

Applicant's arguments filed 12/10/2007 have been fully considered but they are not persuasive.

Applicant argues that the combination of references fails to teach the use of a SCW reactor to convert diesel or jet fuel into a synthesis gas. Applicant further argues that Hokari outputs light organic oil whose molecules include hydrogen and therefore is not the same as producing synthesis gas as in the instant claims. Examiner respectfully disagrees. Hokari does teach reforming heavy oils with high pressure high temperature water in a supercritical state (page 2, paragraph [0031], lines 1-4) generating hydrogen gas by partial oxidation and a shift reaction (page 2, paragraph [0031], lines 12-17) as instantly claimed. Furthermore, the fact that Hokari's apparatus converts heavy oil and not diesel or jet fuel is immaterial to the claimed apparatus because, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115. Further, process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim."

Applicant argues that Wright does not discuss in any detail the operation of the reformer; but rather contemplates traditional reformation. Examiner respectfully

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disagrees. Wright was used as an evidence that it is known in the art at the time of the invention to use combustible gas resulting from hydrocarbon reforming in a fuel cell.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAITY V. HANDAL whose telephone number is (571)272-8520. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KH

3/6/2008

/Alexa D. Neckel/

Supervisory Patent Examiner, Art Unit 1795

Search Notes

Application/Control No.

10/723,543

Examiner

KAITY V. HANDAL

Applicant(s)/Patent under
Reexamination

WOOTTON ET AL.

Art Unit

1795

SEARCHED

Class	Subclass	Date	Examiner
Updated	Search	3/6/2008	KH

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
Updated Key Word Search in EAST	3/6/2008	KH
Updated Inventorship Search	3/6/2008	KH